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Reg No.:_____ Name:_____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

FIFTH SEMESTER B.TECH DEGREE EXAMINATION, DECEMBER 2017

Course Code: CH301

Course Name: ENVIRONMENTAL ENGINEERING (CH)

Max. Marks: 100 Duration: 3 Hours

PART A

Answer any two full questions, each carries 15 marks.

1	a)	What are the important legislations and standards regarding water and air?	(5)
	b)	Differentiate temporary and permanent hardness? Explain the removal of both types of hardness?	(10)
2	a)	What are the biological parameters regarding wastewater?	(5)
	b)	Explain the sampling methods used to determine BOD,COD,DO and TOC	(10)
3	a)	What are the pollutants from petrochemical industries? How they affect water quality?	(5)
	b)	Explain any two precipitation processes used in water treatment?	(10)

PART B

Answer any two full questions, each carries 20 marks.

4	a)	What are the different types of settling?	(5)
	b)	Explain the primary treatment methods used for wastewater treatment	(6)
	c)	What are the different types of sedimentation tanks	(9)
5	a)	A horizontal grit chamber of length16m and width 1m is used for grit removal for a particle diameter of 0.3 mm and density 1400 kg/m^3. The wastewater approach velocity carrying the grit particle is 0.3 m/s and the flow rate is 0.15 m^3/s. Check whether the particle will be settled in the grit chamber or not. (Density of wastewater = 1000kg/m^3, viscosity = 0.001 kg/m.s)	(10)
	b)	Write any five important methods used for recovery of materials from process effluents?	(10)
6	a)	What are the methods used to treat oily matter and finely divided suspended solids from wastewater?	(10)
	b)	What are the classifications of oxidation ponds?	(10)

PART C

Answer any two full questions, each carries 15 marks.

7	a)	What are the advantages and disadvantages of electrostatic precipitator?	(5)
	b)	Explain the global effects of air pollution.	(10)
8	a)	What are the characteristics of fabric and fibre used in the fabric filters?	(5)
	b)	Explain how fabric filters can be used for emission control.	(10)
9	a)	What are primary pollutants and secondary pollutants?	(5)
	b)	What are the effects of air pollution on various materials?	(10)

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